Claims:

1. Process for the production of at least one light-emitting semiconductor diode on a printed circuit board comprising printed conductors,

- where at least one light-emitting semiconductor chip (21) is placed on the printed circuit board (10),
- where the position of the light-emitting semiconductor chip (21) is aligned to at least one alignment edge (18) of the printed circuit board (10),
- where the light-emitting semiconductor chip (21) is electrically and mechanically connected to the printed circuit board (10) in a manner that is thermally conducting,
- where the printed circuit board (10) thus pre-assembled is introduced into an injection mold,
- where the position of the printed circuit board (10) in the injection mold is aligned at least to the above-mentioned alignment edge (18) or to the light-emitting semiconductor chip (21), and
- where the injection mold is injected with a thermoplast which penetrates the printed circuit board (10) through at least one through hole (15) or flows around the printed circuit board (10).

2. Process according to claim 1, characterized by the fact that the light-emitting semiconductor chip (21) lies below the printed circuit board (10) during the injection molding.

3. Process according to claim 1, characterized by the fact that in the injection molding at least one optical lens (32) is produced.

4. Process according to claim 1, characterized by the fact that the light-emitting semiconductor chip (21) is premounted on a chip carrier (24).

5. Process according to claim 1, characterized by the fact that alignment edge (18) is a part of a through hole (16).

6. Process according to claim 1, characterized by the fact that the light-emitting semiconductor chip (21) is electrically, and mechanically connected to the printed conductors (12, 13), in a manner that is thermally conducting, by means of an adhesive and/or solder connection (22).

7. Process according to claim 1, characterized by the fact that the light-emitting semiconductor chip (21) is connected to the printed conductors (12, 13) by means of at least one bond wire (27).

8. Process according to claim 1, characterized by the fact that for the production of several light-emitting diodes (20) on one printed circuit board (10) the respective light distribution bodies (31) are produced by injection molding via a common sprue.

9. Process for the production of a lighting unit produced by injection molding technology, with at least one light distribution body (150), which comprises, at least in certain areas, a

printed circuit board (120) assembled with one chip (140) or a group of chips on the assembly side (121) and the underside (122) of the printed circuit board and the printed circuit board (120) in the vicinity of the chip (140) or the group of chips comprises at least two through holes (123), where an area of the printed circuit board (120), specifically that area provided with the through holes (123), is penetrated by the light distribution body (150),

- where the injection material flows onto the printed circuit board (120) on the under side (122) in the direction normal to it, and
- where the center of the injection jet lies in the area below the chip (140) and divides the material flow on the printed circuit board (120).

10. Process according to claim 9, characterized by the fact that the injection molding material is conducted by means of flow-conducting elevations or indentations.

11. Process according to claim 9, characterized by the fact that the injection jet flows on, at least approximately, the geometric center of the through holes (123) within the injection mold.

12. Lighting unit which comprises a printed circuit board comprising electrical printed conductors and assembled with at least one light-emitting chip and at least one light distributing body encircling a light-emitting chip or a group of light-emitting chips in such a manner that it contacts them,

- where the light distribution body (150) consists of a thermoplast,
- where the light distribution body (150) projects through at least one through hole (123) of the printed circuit board (120) with at least one feedthrough link (152, 154) and lies on the

assembly side (121) as well as on the other side (122) of the printed circuit board (120), said other side facing away from the respective assembly side (121),

- where the minimum cross-sectional surface (153, 155) of an individual feedthrough link (152, 154) is at least 10% of the application surface of the light distribution body (150) on the assembly side (121) and on the light-emitting chip (140),
- where the minimum dimension of the cross-sectional surface (153, 155) is at least a fifth of the maximum dimension of the cross-sectional surface (153, 155), and
- where the application surface of the light distribution body (150) on the other side (122) of the printed circuit board (120) is at least 75% of the cross-sectional surface (153, 155).

13. Lighting unit according to claim 12, characterized by the fact that the thickness of the light distribution body (150) on the side (122) of the printed circuit board corresponds to at least the thickness of the printed circuit board (120).

14. Lighting unit according to claim 12, characterized by the fact that the light distribution body (150) comprises at least two feedthrough links (152, 154), each of which projects through a separate through hole (123).

15. Lighting unit according to claim 14, characterized by the fact that the feedthrough links (152, 154) are disposed so as to be symmetric to one another, where the plane of symmetry intersects the light-emitting chip (140).

16. Lighting unit according to claim 12, characterized by the fact that on the assembly side (121) the height of the light distribution body normal to the printed circuit board (120) corresponds to at least twice the thickness of the printed circuit board (120).

17. Lighting unit according to claim 12, characterized by the fact that the contours of the application surface on the assembly side (121) and the side (122) are at least approximately congruent to one another.

18. Lighting unit according to claim 17, characterized by the fact that the two application surfaces on the printed circuit board (120) are spatially opposite one another.

19. Lighting unit according to claim 12, characterized by the fact that the cross-sectional surface (153, 155) has a minimum over the length of the feedthrough link (152, 154).